



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,499	06/13/2001	Toshinori Iinuma	P101201-0002	2770

4372 7590 12/19/2003

ARENT FOX KINTNER PLOTKIN & KAHN
1050 CONNECTICUT AVENUE, N.W.
SUITE 400
WASHINGTON, DC 20036

EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT

PAPER NUMBER

2686

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,499

Applicant(s)

IINUMA, TOSHINORI

Examiner

Joy K Contee

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-9 is/are rejected.
- 7) ☐ Claim(s) 3-5 and 10-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 6 and 8 recite the limitation "of Fig. 5" and "of Fig. 7", respectively, in line

1. There is insufficient antecedent basis for this limitation in the claim.

The claims have not been reviewed on the merits.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1,2,7 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Watanabe et al. (Watanabe), U.S. Patent No. 5,767,806.

Regarding claims 1 and 9, Watanabe discloses an adaptive array apparatus (and method) that includes a plurality of radio units that each have a transmitting unit, a receiving unit, and an antenna, the adaptive array apparatus (and method) comprising:

storing means for storing (i.e., inherently the arithmetic processing unit stores the detected phase data of the reception RF signals for subsequent comparison) a separate compensation value (i.e., reads on phase and amplitude data) for each radio unit (transmit/receive modules), each compensation value reflecting phase propagation characteristics of the receiving unit and the transmitting unit in the corresponding radio unit (col. 10, lines 25-30); and

compensating means (i.e., reads on beamforming means) for compensating, for each radio unit (i.e., reads on separately "weighting"), a phase amount used when generating a directivity pattern for an output signal by adding the compensation value corresponding to the radio unit to the phase amount (col. 2, lines 60-64 and col. 4, lines 3-11).

Regarding claim 2, Watanabe discloses the adaptive array apparatus of claim 1, further comprising:

generating means (i.e., reads on arithmetic processing unit's calculation function) for generating the compensation value (i.e., "weighted" data value) for each radio unit in accordance with the phase propagation characteristics of the receiving unit and the transmitting unit in the radio unit, the inherent storing means (i.e., reads on the fact that the detection results are compared with the previous detection results, hence stored)

Art Unit: 2686

storing the compensation values generated by the generating means (col. 4, lines 12-22).

Regarding claim 7, Watanabe discloses the adaptive array apparatus of claim 2, wherein the generating means generates the compensation values at an inherent predetermined interval (i.e., a short period of time because of simultaneous calibration) (col. 4, lines 18-22 and col. 10, lines 51-59)

Allowable Subject Matter

6. Claims 3-5 and 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: it is not found in prior art of record the details of the adaptive array apparatus of claims 2 and 9, further comprising, a test signal, and first and second detecting units for detecting when the test signal passes the transmitting unit (a first phase shift value) and a second phase shift value, respectively and a calculating means for calculating a phase shift difference between the receiving unit and the transmitting unit using both the first and second phase shift value and for setting the calculated phase shift difference as the compensation value for the radio unit.

Conclusion

Art Unit: 2686

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fukawa, U.S. Patent No. 6,243,412, discloses an adaptive array transmitter receiver.

Roy III et al., U.S. Patent No. 5,546,090, discloses a method and apparatus for calibrating antenna arrays.

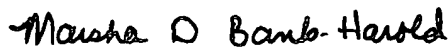
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K Contee whose telephone number is 703-308-0149. The examiner can normally be reached on 5:30 a.m. to 2:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 703-305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.


Joy Contee

December 12, 2003


MARSHA D. BANKS-HAROLD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600